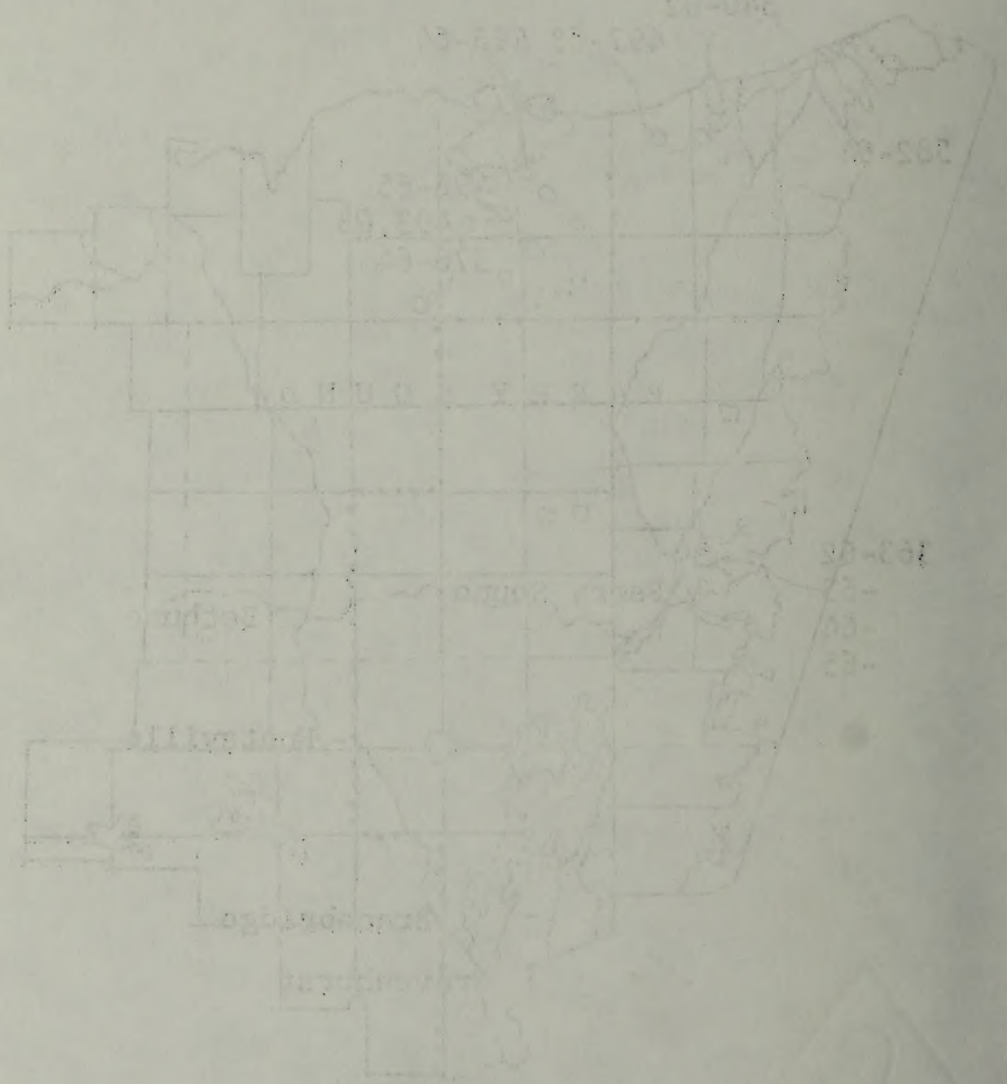

No. 88 May, 1967

RESOURCE MANAGEMENT REPORT

ONTARIO

DEPARTMENT OF LANDS AND FORESTS

HON. RENE BRUNELLE
Minister

G.H.U. BAYLY
Deputy Minister

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FISH AND WILDLIFE BRANCH

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LAKE TEMAGAMI FISHERY BIOLOGY PROGRESS REPORT, 1966

by
Carsten Jorgensen

Introduction

In order to obtain a biological description of Lake Temagami, a three year study programme including a creel census was initiated this summer. The headquarters for the project is situated on Bear Island, having a good central location in the hub of the lake.

Four students were working on the lake this summer. Three of them were employed solely for creel census work and the fourth was assistant to the Biologist. Three steel boats and one aluminum skiff were in use with one 10 H. P. and three 9.5 H. P. motors.

One of the biggest problems was transportation over the various arms of the lake.

Contour Sounding

Sounding on Lake Temagami was begun in July, 1965. At that time the areas sounded were the Northeast Arm, the Southwest Arm, the Northwest Arm, a large part of the North Arm, Ferguson Bay, Shiningwood Bay and Cross Bay.

In the summer of 1966 sounding was carried out in the hub of the lake and on the North Arm. The days of sounding were July 16, 17, 20, 23, 24, 27 and 31 and August 6 when the sounder ceased to function properly. The areas which have not been sounded are the South Arm, a large part of the hub, the North Arm north of Horseshoe Island and various bays and inlets.

Physical and Chemical Analysis of Water

Hydrographic Stations

From August 9 to August 13, twenty-three hydrographic stations were established throughout the lake. These stations consisted of buoys attached by cotton cord to heavy anchors. Empty plastic javex and oil bottles served as buoys and were numbered and labelled "L & F - Fish Research". Because of the great weight of the rocks picked as anchors, it required two men to establish a station, and many curious anglers, who attempted to pull up the anchors, were unable to do so.

The physical and chemical analyses of water at the hydrographic stations were carried out by the creel census takers. One census taker would carry out the analyses until all the stations in his area had been

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The physical and chemical analyses of water at the hydrographic stations were carried out by the creel census takers. One census taker would carry out the analyses until all the stations in his area had been

done. Then another of the creel census takers would take the equipment and carry out the analyses for the stations in his area. In this way it took about two weeks to visit all the stations once.

Physical Analyses

The measurements of turbidity were made conventionally with a Secchi disc.

For reading water temperatures a battery-run Thermo thermometer with a 100 foot line was used. However, on July 14 the thermocouple fell off and was lost so that this thermometer became useless for the rest of the summer. A Kenmere bottle was then used to draw samples of water to the surface for temperature readings. This proved to be a slow technique. A whole hour was required to take the readings from one hydrographic station. Readings were taken at 5 foot intervals down to 100 feet.

Chemical Analyses

Chemical determinations for dissolved oxygen and carbon dioxide and hydrogen-ion concentration were carried out by means of a Hach chemical kit. Oxygen and carbon dioxide determinations were made at depth intervals of 10 feet while determination of pH were made at the surface, at the 50 foot mark and at the maximum depth for determinations, which was 100 feet.

On August 13th the supply of chemicals for oxygen determination was depleted and on August 21st the chemicals for carbon dioxide determinations were depleted.

The maximum concentration of dissolved oxygen found was 12 p.p.m. and the minimum was 8 p.p.m. The carbon dioxide concentration remained constant throughout the lake at the smallest readable figure 5 p.p.m.

Fish Sampling

Gill Netting

On June 29th gill netting commenced on Lake Temagami. One gang of 500 feet was used with mesh sizes 1-1/2, 2, 2-1/2, 3-1/2 and 3-1/2. In order to avoid catching the lines of anglers, the nets were set at night just before dark and collected the following morning about twelve hours later.

Empty white, plastic javex bottles, bearing the label "L & F - Fish Research" in black letters were used as buoy markers. Rocks served as anchors at both ends.

On July 21, the gang of nets remained at 500 feet in length, but the mesh sizes were changed to 1-1/2, 2, 2-1/2, 3-1/2 and 4. Then on July 29, the gang was increased to 700 feet with mesh sizes 1-1/2, 2, 2-1/2, 3-1/2, 4, 4-1/2 and 5.

Data collected from the specimens include fork length, total length, weight, scale sample, sex, stomach contents and any other pertinent information (e.g. whether tagged or fin clipped).

The presence of parasites and diseases of the different species were recorded. 59 whitefish were sampled for Triaenophorus infestation. The count was generally low and many whitefish did not seem to be infested at all. However, the maximum number of cysts found in one fish was 80.

Gill Netting - Lake Temagami - Summer, 1966

Date of Net Set	Trout	Walleye	S.M. Bass	White-fish	Pike	Herring	Sucker	Ling	Rock Bass	Ft. of Mesh	# of Hours Set	Mesh Close to Shore
June 29	1					8	3		1	500	12	small
30		11		1			10			500	12	small
July 1	1			2						500	12	small
2				2		1	3	1		500	12	large
13	3					7		1		500	12	small
15		7	2				9		1	500	12	large
20	1		1			8	1			500	12	large
23			2				1		2	500	12	small
26	1			2		12		1		500	12	small
28	2			2		1	5			500	12	small
29		4	2				3		2	700	12	small
30		2					3		1	700	24	small
Aug. 3	2	1		12		5			5	700	12	small
4		2	4		8		22		3	700	12	small
6		4		2	2	55				700	12	small
13		8		3		1	8		2	700	12	small
16		7		3		1	3		3	700	12	small
19		11	1	3	5		6		10	700	12	small
20		2	1	1			5		2	700	12	small
24	4	1		5		8	1	1		700	24	small
25	4	12	3	10		52	3	3		700	36	large
30	4	1		2		14	1	1		700	12	large
31	2	1		8		8	1			700	36	large
Sept. 2	10			4		5	2	2		700	36	large
4		9			1		7		6	700	12	small
5	1	2	1	2		4	1	4	1	700	12	small
6	3	3		5		26	2			500	12	large
7	4	4		6		29	6	1		600	12	large
Total	43	93	24	70	16	245	105	15	39	17,300	432	

Seine Netting

A small amount of seine netting was carried out during the summer. Three sweeps were made at each site.

July 20 - At Sandy Inlet - several logperch, 1 minnow (unidentified) preserved - sand bottom.

July 30 - At the entrance to Spawning Bay - 4 small mouth bass, 4 suckers, small fish (unidentified) preserved in jar, 14 crayfish - sandy gravel bottom.

July 31 - At Graveyard Point, Bear Island - 2 suckers, small fish preserved, 1 crayfish - sandy gravel bottom.

August 6 - At Island #857 - 3 small mouth bass, 2 small fish preserved - gravel bottom.

August 12 - At Witch's Point (South side) - preserved fish, 31 crayfish- stoney bottom.

August 14 - At Witch's Point (North side) - 1 small mouth bass, 1 crayfish - gravel bottom.

At Gravel Island - 2 crayfish - stoney gravel bottom.

August 30 - At Sandy Point - small fish preserved - sand bottom.

September 1 - At the entrance to Spawning and Loon Bays - small fish preserved - sandy gravel bottom.

Vegetation

Vegetation was collected from a few bays and river mouths. These have not yet been identified and a complete sampling for the lake has not been achieved.

Shoals and Reefs

Shoals and reefs are very numerous in Lake Temagami. Many are unmarked and unknown and are especially treacherous close to shore outside the main channels.

Fall Spawning Fish

An effort was made to locate the natural spawning areas of the fall spawning fish. Gill nets were used in locating spawning grounds of whitefish and herring. No nets were used during the trout spawning season. However, an effort was made to observe the trout

on shoals at night by shining strong flashlights into the water.

On October 2, the trout were just starting to visit the spawning shoals. The spawning took place from October 6 to October 21. During this period the water temperature dropped from 55°F to 50.5°F and the water level rose two inches.

Several spawning sites were found for each of the three species. However, there are probably numerous spawning areas not yet located.

Between November 4 and November 18, 56 whitefish and 48 herring were caught. The gonads were all ripe except for those of a few whitefish, caught November 17 and 18, which were spent. 6 suckers, 3 lake trout and 3 ling were also caught in November. The stomachs of these species were examined to see if they had been eating spawn. No spawn was present. The three gonads of the three trout were spent.

Temagami Creel Census - 1966

Introduction

The Temagami creel census is a three year programme. The main purpose is to realize the total harvest of sports fish in Lake Temagami with special attention being devoted to the lake trout (Salvelinus namaycush). The other main species of sport fish involved will be walleye (Stizostedion vitreum), northern pike (Esox lucius), small mouth black bass (Micropterus dolomieu), and lake whitefish (Coregonus clupeaformis). Incidental fish species, also present in the fishery, are rock bass (Ambloplites rupestris), shallow water cisco (Leucichthys artedi), ling (Lota lota) and yellow perch (Perca flavescens).

This project will be in conjunction with an overall biological study of the lake.

Organization

Two approaches were used in the summer creel census.

1. The co-operation of the Camp Operators made available information on completed fishing trips.

2. Three students were employed to contact anglers on the lake. Each student was supplied with a steel boat and a 9.5 H. P. outboard motor. Boat counts from aircraft were carried out on 13 days in July and August. On each of these days three counts were made; in

the morning, in the afternoon and in the evening.

The lake was divided into three areas, A, B and C and each student was assigned an area to patrol. Area A consists of the Northwest and the North Arm and includes the part of the hub west of Bear Island, down to the southern tip of Cattle Island. Area B is comprised of the Northeast arm, Kokoko Bay, Loon Bay, Spawning Bay, Shiningwood Bay and the part of the hub east of Bear Island streching south to Wabi-Kon. The rest of the lake makes up area C which includes the Southwest Arm, the South Arm, Portage Bay and Cross Bay. Area B was patrolled in one day while it required two days to patrol each of the other two areas. The headquarters was at Bear Island.

Survey Hours and Days

The students commenced gathering creel census data on June 1st. Data was gathered continously until September 7th, when the students returned to school. Creel census patrol was again carried on in October and November by the author. On October 10th the trout season closed and no anglers were contacted after that date because none could be found.

The students patrolled the lake six days a week with Monday as the regular holiday. The patrolling hours were as follows:

June 1 to July 18	8 A.M. to 5 P.M.
July 19 to July 24	1 P.M. to 10 P.M.
July 26 to July 31	4 A.M. to 12 noon
August 1	1 P.M. to 10 P.M.
August 3 to August 7	8 A.M. to 5 P.M.
August 9 to August 14	1 P.M. to 10 P.M.
August 16 to August 21	8 A.M. to 5 P.M.
August 23 to August 28	1 P.M. to 9 P.M.
August 30 to September 7	8 A.M. to 5 P.M.
October 1 to October 6	8 A.M. to 5 P.M.
October 18 to October 20	8 A.M. to 10 P.M.
November 1 to November 4	8 A.M. to 5 P.M.
November 8 to November 10	8 A.M. to 5 P.M.
November 15 to November 18	8 A.M. to 5 P.M.

The days and times of boat counts from the Beaver airplane were as follows:

Date	A.M.	P.M.	Evening
July 19	9	2	7:30
22	9	2	7:00
28	9	2	7:30
August 1	9	2	7:30
5	9	2	7:00
12	9	2	7:00
17	9	2	7:00
18	9	2	7:00
20	9	2	6:30
23	10	2	6:30
26	10	3	7:00
28	10	3	6:30
31	10	3	- -

The times shown for the boat counting flights are the starting times. Each flight lasted 1-1/2 hours.

Results

Results from Creel Census Patrols

Date	Anglers	Man-Hours	Man-Hours/ Angler	Lake Trout	Walleye	S.M. Bass	Pike	White-fish	Total Fish	Man-Hours/ Fish	Lake-Trout/ Angler	Wall-eye Angler	Fish/ Angler
June	555	1517.5	2.73	94	56	1	14	3	168	9.03	0.17	0.10	0.30
July	1070	2328.5	2.18	140	44	42	3	4	233	9.99	0.13	0.04	0.22
Aug.	668	1742.5	2.61	95	33	37	6	-	171	10.19	0.14	0.05	0.26
Sept.	79	175	2.22	11	1	1	-	-	13	13.46	0.14	0.01	0.16
Oct.	11	45	4.09	3	-	-	-	-	3	15.00	0.27	0.00	0.27
Total	2383	5808.5	2.44	343	134	81	23	7	588	9.88	0.14	0.06	0.25

Results for Complete Trip (From Tourist Outfitters and Cottage Reports)

Date	Anglers	Man-Hours	Man-Hours/ Angler	Lake Trout	Walleye	S.M. Bass	Pike	White-fish	Total Fish	Man-Hours/ Fish	Lake-Trout/ Angler	Wall-eye Angler	Fish/ Angler
May	107	1957.5	18.29	71	121	22	27	6	247	7.93	0.66	1.13	2.31
June	140	2766.0	19.76	133	195	27	6	1	362	7.64	0.95	1.39	2.59
July	117	862.0	7.37	33	82	25	2	-	142	6.07	0.28	0.70	1.21
Aug.	36	435.0	12.08	3	19	8	8	-	38	11.45	0.08	0.53	1.06
Sept.	16	115.0	7.19	3	4	4	-	-	11	10.45	0.19	0.25	0.69
Total	416	6135.5	14.75	243	421	86	43	7	800	7.67	0.58	1.01	1.92

Catch per Unit Effort - i. e. Fish per Man-Hour

C. U. E.

Date	Trout	Walleye	S.M. Bass	Pike	Whitefish	Fish
June 1-6	0.11	0.04				0.15
June 7-13	0.06	0.02		0.01		0.10
June 14-20	0.06	0.05		0.01		0.12
June 21-27	0.04	0.03		0.01		0.09
June 28-July 4	0.08	0.02	0.01	0.01		0.12
July 5-11	0.07	0.02	0.01			0.11
July 12-18	0.05		0.02			0.07
July 19-25	0.04	0.03	0.02			0.10
July 26-31	0.07		0.02			0.09
Aug. 1	0.08	0.02	0.02			0.11
Aug. 2-8	0.07	0.02	0.03	0.01		0.12
Aug. 9-15	0.04	0.02	0.01			0.08
Aug. 16-22	0.07	0.02	0.02			0.11
Aug. 23-29	0.04	0.02	0.03	0.01		0.11
Aug. 30 - Sept. 7	0.06		0.01			0.07
Monthly Averages for Creel Census Patrol						
June	0.06	0.04	0.01			0.11
July	0.06	0.02	0.02			0.10
August	0.05	0.02	0.02			0.10
September	0.06	0.01	0.01			0.16
Total	0.06	0.02	0.01			0.10
Monthly Average for Complete Fishing Trip (From Tourist Outfitters and Cottage Reports)						
May	0.04	0.06	0.01	0.01		0.13
June	0.05	0.07	0.01			0.13
July	0.04	0.10	0.03			0.16
August	0.01	0.04	0.02	0.02		0.09
September	0.03	0.03	0.03			0.10
Total	0.04	0.07	0.01	0.01		0.13

Total Results

Anglers	Man-Hrs.	Man-Hrs./ Angler	Lake Trout	Walleye	S.M. Bass	Pike	White-fish	Total Fish	Man-Hrs./ Fish	Lake-Trout/ Angler	Wall-eye/ Angler	Fish Angler
2,799	11,944	4.26	586	555	167	66	14	1388	8.61	0.21	0.20	0.50

Catch Per Unit Effort - i. e.
Fish per Man-Hour

	Trout	Walleye	S.M. Bass	Pike	Whitefish	Fish
Total	0.05	0.05	0.01	0.005	0.001	0.12

Discussion

From July 26 to 31 inclusive, the creel census patrols were from 4 A. M. to 12 noon. During that week very few anglers were encountered before 8 A. M. The ones, who were encountered fishing before breakfast, were campers who invariably told the creel census takers that they were just beginning and, therefore, could make no creel census contributions.

During evening patrols, most of the anglers were contacted just before dark. Many anglers preferred to fish for about an hour before dark. These anglers were all still fishing and hated to be disturbed. They looked sullen and answered gruffly. This was in direct contrast to the cheerfullness of the daytime anglers.

An attempt was made to distinguish between the different types of angling. However, this was extremely difficult and not successful.

In the beginning of August one angler, casting from the shore, seriously claimed that he was fishing for lake trout. Another fisherman encountered was very irritated because he kept on catching trout. He was fishing for small mouth bass. Other anglers switched back and forth fishing for several species.

The fishing concentration was very light. The highest number of boats counted in one flight was 64 with 128 anglers. This amounts to a concentration of 0.82 boats per square mile of 0.001 boat per acre. The average number of boats fishing counted per flight was 28. This amounts to 0.36 boats per square mile or 0.0005 boats per acre. The majority of boats contained one or two anglers.

Most of the fishing was carried out on the Northeast Arm. When patrolling the other arms, it was not unusual to travel eight hours and see only three or four boats fishing. Finding these boats often involved diligent searches behind islands in the many bays, especially in patrol area C. However, a comparison of the boats contacted, with boat counts from the aircraft, indicates that the creel census takers achieved close to 100% contact in the areas patrolled.

The results indicate that an angler would be fishing for about eight hours before catching a fish. However, experienced fishermen, who either knew the lake or had a good guide, had much better success than indicated in the creel census results. On June 30, one such angler had caught two trout within one hour. A bass fisherman in Cross Bay caught five small mouth bass in thirty-five minutes on August 26. However, such experienced fishermen represent a minority of the anglers.

Recommendations

1. That sounding on Lake Temagami be completed as soon as possible.

2. That at least two water analyses kits be put into use on Lake Temagami next summer so that the hydrographic stations may be visited in a shorter time.

3. That more effort be put into gill netting in order to obtain a representative sample of the fish populations. That at least three or four gangs be put to use.

4. That the search for spawning grounds be continued.

5. That co-operation by Camp Operators in obtaining creel census data, be continued.

6. That boat counting by aircraft be continued.

7. That the effort on summer creel census patrol be cut down. A randomized representative sample could be obtained with less effort. This summer, 1,250 anglers, 53% of the total number of anglers encountered on creel census patrol, were tourist guests. When contacted on the lake most of these anglers would not fill out a form for the complete trip. Therefore, the results of the fishing trips of half the anglers would be recorded whether contacted on the lake or not and would be recorded more completely when not contacted on the lake.

8. That creel census be discontinued from October 10, the closing of the trout season, until January 1, the opening of the trout season.

STATISTICAL REPORT ON THE FORT SEVERN GOOSE HUNT, 1966

by
J. Lessard

Introduction

In 1965 a first attempt was made to collect as much information as possible on the waterfowl kill in the Fort Severn area. This project was continued in 1966 and contained herein is a detailed breakdown of this past season's waterfowl kill.

Methods

A questionnaire in English and Cree, listing species, age and sex of all the geese likely to be shot in the Fort Severn area, was distributed among the women of the village engaged in goose plucking, with instructions to fill it in for all the birds they cleaned, including their own. Hunters and guides were asked to collect one wing of all ducks, and the tail and one wing of all ptarmigan for sex and age studies.

Results

Geese

One hundred and eight hunters participated in the hunt in 1966, of which 94 came from the U.S.A.; 8 from Ontario and 6 were residents of Manitoba. The American hunters came from nine states: Minnesota, Illinois, Ohio, Kansas, Nebraska, Indiana, New York, Iowa, Mississippi.

Table I - Distribution of Kill - Geese

Date	Greater Canada	Lesser Canada	Richardson	Blue	Snow	Ross
Sept. 15	66	30	8	52	128	
16	40	14	15	64	159	1
17	18	57	-	69	164	
18	14	38		46	93	
19	18	14		34	69	
20	17	66	2	84	68	
21	32	33	3	46	122	1
22	10	17		67	120	
23	3	2		10	35	
24	-	2	2	12	36	1
25	7			5	7	1
26	7	13		46	43	
27	2	14		33	66	
28	5	4		13	36	1
29	-	-		-	-	-
30						
	239	304	30	581	1146	5

Total Kill of all species - 2305

Note: This total includes birds shot by tourists, guides and Indians when not engaged in guiding.

Table II - Sex and Age by Species

Of the total kill of 2305 geese a questionnaire was returned on 1237 birds or a 53.6% sample.

SNOW

Adult Male	Adult Female	Juvenile Male	Juvenile Female
234	156	106	80

Total - 576
Ratio male to female - 100:69
Ratio adult to juvenile - 100:48
Ratio adult female to juvenile - 100:111.

Table II - Sex and Age by Species cont'd

BLUE

Adult Male	Adult Female	Juvenile Male	Juvenile Female
129	87	51	37

Total - 304
Ratio male to female - 100:68
Ratio adult to juvenile - 100:41
Ratio adult female to juvenile - 100:101

GREATER CANADA

Adult Male	Adult Female	Juvenile Male	Juvenile Female
98	31	31	23

Total - 183
Ratio male to female - 100:42
Ratio adult to juvenile - 100:42
Ratio adult male to juvenile - 100:174

LESSER CANADA

Adult Male	Adult Female	Juvenile Male	Juvenile Female
87	48	16	23

Total - 174
Ratio male to female - 100:69
Ratio adult to juvenile - 100:29
Ratio adult female to juvenile - 100:81

Table III - Distribution of Kill - Ducks

Date	Black	Mallard	Pintail	Baldpate	G.W. Teal
Sept. 15	7	15	7		
16	1	9	2	5	3
17		4	8	14	4
18			3		
19		6	12		
20			1		
21		2			
22		5			
23			3		
24		1			
25					
26					5
27					4
	8	42	36	19	16

Totak Kill of all species - 121

Table IV - Sex and Age by Species

MALLARD

Adult Female	Adult Male	Juvenile Female	Juvenile Male
2	-	-	2

PINTAIL

Adult Female	Adult Male	Juvenile Female	Juvenile Male
3	4	3	3

GREEN WING TEAL

Adult Female	Adult Male	Juvenile Female	Juvenile Male
1	2	3	1

Table V - Distribution of Kill - Willow Ptarmigan

Sept. 15	16	17	18	19	20	21	22	23	24	25	26	27
	5	6	5		2	2	31	3			2	5

Total - 61

Table VI - Sex and Age of 19 Willow Ptarmigan

Adult Male	Adult Female	Juvenile Male	Juvenile Female
3	3	9	4

Sex and age of the 19 birds was determined by the following methods:

Age

1. Adults have the same amount of black pigment on primaries 8 and 9 or more on 8 than on 9, whereas juveniles have more on primary 9 than on 8.

Sex

1. Females have significantly shorter wings than males.

2. Females have significantly shorter rectrices than males.

3. Females have brown pigment on their tails; males black.

Seals

Despite our efforts to promote seal hunting only 2 hunters took time out for a seal hunt and both were successful. Fourteen seals were shot during our stay at Fort Severn. Twelve were taken by Indians prior to the opening of the goose season. The animals are cut into strips, hung up to dry and stored away for use as dog food during the winter months.

Hunter Success

For the first few days of the season, the hunters experienced some difficulty in obtaining their daily bag limits of geese. The majority of snows and blues had not yet arrived, this is probably due to the unusually warm weather at Severn this year. However, greater and lesser Canada were about in greater numbers than ever before. More Canada geese were killed in 1966 (543) than in the 3 previous years

that the camp has been in operation (424). Nevertheless, with the exception of 3 hunters all departed for home with their 10 geese.

Enforcement

Every season, one Royal Canadian Mounted constable is posted at Fort Severn for the duration of the hunt. He is largely responsible for the enforcement of the Migratory Birds Convention Act and when the situation permits he is also assisted by the writer. No charges were laid in 1966 although a few warnings were issued to some overly anxious hunters who applied pressure on their guides to let them shoot more than the daily bag limit. In all cases the guides promptly reported this situation to us and it was made quite clear to the tourists involved that shooting more than the legal limit would not be tolerated.

Acknowledgements

The writer wishes to express his thanks to Biologist D. Roseborough for taking time out from a busy schedule to explain in detail the methods for aging and sexing willow ptarmigan.

We are also indebted to the women of Fort Severn for their cooperation in filling our the questionnaires and to camp manager Jack Stoney for his patient explanation of what we required.

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ᑲᑎᕕᒃ

SNOW

Adult Male	Adult Female	Juvenile Male	Juvenile Female
ᑲᓇᕐᓂᖅ	ᓄᓇ ᐅᖅ	ᑭᓱᓂᕐᓂ ᐊᕙᑎᒥ	ᑭᓱᓂᕐᓂ ᓄᓇᑦ

ᑲᓚᑲᒃᑐᖅ

BLUE

Adult Male	Adult Female	Juvenile Male	Juvenile Female
ᑲᓚᑲᓗᕙᒃᑐᖅ	ᓄᓇ ᐅᖅ	ᑭᓱᓂᕐᓂ ᓇᐃᕙᒥᑦ	ᑭᓱᓂᕐᓂ ᓄᓇᓕᒫ

ᑭᓇᐅᔭᖅ

GREATER CANADA

Adult Male	Adult Female	Juvenile Male	Juvenile Female
ᑭᓇᐅᔭᖅ	ᓄᓇᕗᑦ ᐅᔭᖅ	ᑭᓱᓂᕐᓂ ᐃᓕᒫᑦ	ᑭᓱᓂᕐᓂ ᓄᓇᕗᑦ

ᐃᓱᒪᓕ

LESSER CANADA

Adult Male	Adult Female	Juvenile Male	Juvenile Female
ᐃᓱᒪᓕ	ᓄᓇᕗᑦ ᐃᓱᒪᓕ	ᑭᓱᓂᕐᓂ ᓄᓇᓕᒫᓕ	ᑭᓱᓂᕐᓂ ᓄᓇᐃᓕᓕ

WINTER CREEL CENSUS 1966 CONDUCTED BY SUDBURY DISTRICT CONSERVATION OFFICERS

by
D. R. Hughson

Abstract

During the winter months of 1966 the CO's of the Sudbury District checked 2,647 anglers who fished for 11,985 hours. Their catch was 1,297 lake trout, 503 brook trout, 16 splake, 27 pike, 113 perch and 1 walleye. Seen on these patrols were a total of 327 power toboggans. The average catch (all species combined) was 16.3 fish per 100 rod hours. There were seven apprehensions during patrols, all for the use of 4 lines or more.

Introduction

In recent years there has been tremendous increase in the winter usage of lakes in the Sudbury District. This is true even of lakes that in past years were considered to have only fair or limited access. This additional angling pressure is due to the increased use of power toboggans and light aircraft, greater popularity of "ice fishing", and early opening of the brook trout season. This apparent change in utilization was considered by this district to be of sufficient importance to warrent documentation.

In the winter of 1966 Sudbury District Conservation Officers conducted a creel census on the important lakes in their patrol areas. This report is a summary of these surveys.

Method

Lakes were patrolled by rented or department power toboggan, department aircraft or on snowshoes. Anglers were checked as to angling time and catch as well as means of travel. Part of the data for Trout Lake in Hoskin Township was obtained by the local tourist outfitter on that lake under the supervision of the C.O.

Comments

The significant figures in Table I are the average number of anglers per day and catch per unit effort. The largest lakes, Penage

and Manitou receive the greatest number of anglers - 37 and 19 respectively. Some of the smaller brook trout lakes, however, bear the greatest concentrated or short term pressure, eg. Mooseau Lake, 12 acres, having an average of 15 anglers per day for the first few weekends of the brook trout season. Penage's 37 anglers per day for 18,000 acres is light by comparison.

The high catch per unit effort on Mooseau Lake is interesting when correlated with the fact that it was the only brook trout lake in this report which apparently has no sucker population as indicated in the 1966 lake surveys.

The increased use of the districts brook trout lakes by extended season and improved winter transportation has lead to more efficient use of our brook trout plantings and has reduced the pressure on some of our lake trout lakes.

It is evident by this survey that the main species sought during the winter months are brook trout and lake trout with the exception of the spring perch fishery on Lake Wolsley, Kagawong and South Bay (no data collected on the last two waters). While most of th districts lake trout waters lie north of highway 17 and even though this is where the highest catch per unit effort is found, the greatest concentrations of anglers are generally found on the few lake trout lakes south of Highway #17, i.e. Penage, Manitou and Bear. This is due primarily to access and emphasizes the need for special management of the cold water fishery of these lakes and the importance of continued creel census data.

Regarding angling success for trout species during the winter months it has been found that where a group of fishermen, both expert and amateur, experience a catch of at least 10 fish per hundred rod hours there are few complaints as to fishing quality. The expert fishermen have caught, on the average, more than one fish per day and the amateurs have at least seen fish caught. Where experienced fishermen travel to "inaccessible" lakes they are not satisfied with catches below 20 fish per 100 rod hours unless unusually large fish are caught. Eight per cent of the trout caught during the ice fishing period are under two pounds. This is a very general standard of evaluating the quality of the district's winter trout fisheries from the angler's point of view.

At present our only management tool of any importance in maintaining or improving district trout waters is hatchery introductions. This has been very significant on Lake Manitou (see Lake Manitou Winter Creel Census 1966 by F.A. Zimmerman). Ninety-eight per cent of the lake trout caught in the winter of 1966 were fin clipped (hatchery) fish. It is obvious that plantings on this lake have been mainly

responsible for the success of 16 trout per 100 rod hours. It is suspected that a similar situation exists on Penage Lake where the catch per 100 rod hours has gone from 1.6 in 1960 to 9.1 in 1966. Hatchery planting of yearling lake trout have been made in Penage from 1960 to 1966 at the rate of 10 to 20 thousand per year. The first fin clipped fish planting was made in 1966.

The census data contained in this report coupled with information on marked fish plantings may yield useful information for calculating stocking rates for specific lakes to obtain various rates of angling success within certain limits. The creel census is the final analysis of most programmes as the fish in the anglers' creel is the desired end of most fisheries management.

Availability of power toboggans, access and C.O. work load has led to the difference in census for the various patrol areas.

Acknowledgements

This report is due entirely to the co-operation of the Sudbury District Conservation Officers participating in the census. Their patrols were often conducted under hazardous and difficult conditions and frequently during adverse weather.

Thanks is due to Fish and Wildlife Supervisor, C.F. Bibby for suggestions and criticism of this report.

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Lake Manitou Winter Creel Census 1966 - F.A. Zimmerman.

Report on Lake Penage Winter Angling Success 1966 (unpublished) - D.R. Hughson.

IMPORTANT WINTER FISHING LAKES IN SUDBURY DISTRICT

Area	Month	lake name	anglers	hours fished	fish caught	species	days checked	ave. anglers per day	catch per 100 rod hours
#1	Jan.	McCool	17	55	29	l.trout*			
	Feb.		4	16	3	l.trout			
Total			21	71	32	l.trout	4	5	45.0
	Jan.	Splake	11	44	13	splake			
	Feb.		3	9	3	splake			
Total			14	53	16	splake	2	7	30.1
	Jan.	Folson	5	15	3	l.trout	1	5	20.0
	Feb.	Poison	6	22	5	b.trout*	1	6	22.7
	Feb.	Evangeline McKinnon	20	68	3	pike	2	10	4.4
#2	Feb.	Shakwa	6	24	4	l.trout			
	Mar.		9	45	45	l.trout			
	Apr.		2	4	4	l.trout			
Total			17	73	53	l.trout	3	6	72.6
	Mar.	Rock	12	51	4	b.trout			
	Apr.		15	36	12	b.trout			
Total			27	87	16	b.trout	6	5	18.3
	Mar.	May	6	32	10	b.trout	1	6	31.2
	Feb.	Spanish R.	8	34	6	pike			
	Mar.		4	10	2	pike			
Total			12	44	8	pike	7	2	18.1

* l.trout - lake trout
* b. trout - brook trout

TABLE I - Continued

Area	Month	lake name	anglers	hours fished	fish caught	species	days checked	ave. anglers per day	catch per 100 rod hours
#3	Feb.	Mooseau	40	142	284	b.trout*			
	Mar.		34	70	8	b.trout			
Total			74	212	292	b.trout	5	15	137.7
	Feb.	Downs	19	38	13	b.trout			
	Mar.		1	1		b.trout			
Total			20	39	13	b.trout	2	10	33.3
	Feb.	Second	27	138	82	b.trout			
	Mar.		19	59	19	b.trout			
Total			46	197	101	b.trout	4	13	51.2
	Feb.	Johnson	3	5		b.trout			
	Mar.		5	5		b.trout			
Total			8	10		b.trout	3	3	
#4	Jan.	Kumska	23	80	7	l.trout*			
	Feb.		3	3		l.trout			
Total			26	83	7	l.trout	2	13	8.4
	Jan.	Sam Martin	10	46	9	l.trout			
	Feb.		10	43	18	l.trout			
Total			20	89	27	l.trout	2	10	30.3
	Feb.	Joe	4	17	2	b.trout	1	4	11.7
#5	Jan.	Penage	223	1093	144	l.trout			
	Feb.		222	1018	65	l.trout			
	Mar.		267	1404	110	l.trout			
Total			712	3515	319	l.trout	19	37	9.0
	Jan.	Bear	25	136	10	l.trout			
	Feb.		27	92	25	l.trout			
Total			52	228	35	l.trout	3	17	15.3

* l. Trout - lake trout
* b. trout - brook trout

TABLE I - Continued

Area	Month	lake name	anglers	hours fished	fish caught	species	days checked	av. anglers per day	catch per 100 rod hrs.
	Jan.	Bassoon	10	43	1	l.trout*			
	Feb.		5	18	3	l.trout			
Total			15	61	4	l.trout	3	5	6.5
	Feb.	Camp 10	50	219	52	b.trout*			
	Mar.		39	138	12	b.trout			
Total			89	357	64	b.trout	3	21	17.9
#6	Jan.	Trout	68	415	23	l.trout			
	Feb.		109	623	49	l.trout			
	Mar.		156	999	44	l.trout			
Total			333	2037	116	l.trout	56	6	5.6
	Jan.	Nepewassi	14	104	2	pike			
	Feb.		6	29	1	walleye			
	Mar.		5	19	2	pike			
Total			25	152	1	walleye			
					4	pike	6	4	3.2
					113	perch			
		Wolsley	47	147	12	pike	9	5	85.0
Manitoulin Island	Jan.	Manitou	39	171	11	l.trout			
	Feb.		385	1735	243	l.trout			
	Mar.		584	2301	403	l.trout			
	Apr.		40	167	53	l.trout			
Total			1048	4376	701	l.trout	56	19	16.0

* l.trout - lake trout
* b.trout - brook trout

NON-RESIDENT BIG GAME HUNT PORT ARTHUR DISTRICT 1966-67

by
H.R. Timmerman

Abstract

Non-resident hunters enjoyed the longest moose and deer season on record in the Port Arthur District. An estimated total of 647 moose and 44 deer were exported south at five border crossing points. Moose hunter success based on returns collected at Pigeon River dropped to 35.8% as compared to 73.5% in 1965-66. Non-resident licence sales more than doubled as did the number of moose hunters in the field.

A record of 3,146 moose hunter return forms were collected by Canadian Customs personnel at Pigeon River. This preliminary report is made possible largely through the untiring efforts of Customs personnel who collect both successful and unsuccessful hunt information.

Introduction

The ever increasing influx of non-resident big game hunters annually puts a bigger strain on the districts involved. We, in Port Arthur District, are more fortunate than most. In excess of 90% of all non-resident big game hunters who hunt in our district return south through one exit; Pigeon River. By taking advantage of this fact and through the excellent co-operation of Canadian Customs personnel, we are able to gather valuable information. Information of this type; recorded while still fresh in the hunters mind, is far superior to a later mail survey. This marks the third successive year that this preliminary report has been prepared. We feel it is an advantage to know all the facts on hand and to make them public as soon as possible. Although the total estimated kill may change slightly and the percent success a few percentage points; past experience has shown this change to be small.

Method

An ever increasing need for a simple streamlined system of hunting statistic collection resulted in a new system being introduced

in 1965. At this time the northwestern region divided their four districts into numbered areas as follows:

District	Numbered Areas
Kenora	2, 3, 4, 5
Sioux Lookout	1, 6, 7, 8
Port Arthur	9, 10, 11, 12
Geraldton	13, 14, 15, 16, 17
Fort Frances	No non-resident hunting

Copies of maps showing the districts' numbered areas were again placed at Pigeon River, Rainy River and International Falls. American Customs personnel collected successful moose hunt statistics only at the latter two points of exit. Canadian Customs personnel collected both successful and unsuccessful deer and moose hunt information at Pigeon River. Mimeographed sheets, similar to the printed moose return cards were again employed.

Customs personnel were requested, as in the past, to ask returning hunters whether or not they intended to come back to hunt. Only those who indicated that they might not or were not returning were asked to make out a return sheet. Hunters who intended to come back at a later date were instructed to make out a return at that time, covering their total hunt. Hunters in possession of non-resident deer licences were asked to fill out deer reminder cards provided by head office. Through experience, most non-resident hunters plan their hunt and holidays months in advance and few return at a later date due to the long distances and time off involved. Information thus gathered using a similar system year after year does give us a general trend for comparison. Completed moose return sheets and deer return cards were picked up every two weeks and sent to the district of issue. Thus an up to date picture of hunt progress was made available.

A power toboggan Usage Survey form was drawn up and placed with Customs personnel for distribution between December 13 and January 8. Customs personnel were requested to attach these forms to the regular moose hunter return sheets.

Observations

(a) Moose Hunt

A total of 3,196 non-resident moose return forms were collected by Customs personnel at Sault Ste. Marie, Pigeon River, International Falls and Rainy River during the 100 day 1966-67 season (see Table I). From this total 3,146 or 98.5% were obtained at Pigeon River, 1678 or 53.3% of which hunted in Port Arthur district. An additional 40 and 10 kill cards respectively were sent from customs collections in Sault Ste. Marie and Fort Frances Districts. Success rates calculated on each of the 4 management areas (see Table II) using Pigeon River returns only, added an additional 82 unsuccessful hunters. Customs at Saganaga Lake report 28 exported moose, before they terminated services in late October.

Known Kill

A breakdown of the total known kill for the Port Arthur District is as follows:

Point of Export	Return Cards	No. of Moose Shot
Pigeon River	1678	569
Sault Ste. Marie	40	40
Fort Frances (Int. Falls & Rainy River)	10	10
Saganaga Lake		28
	Total	647

The total kill represents a 4.4% or 29 animal decrease over the record 1965-66 season. It is felt that the combination of rather poor weather during the rut plus the fact that the average hunter remains close to accessable roads or waterways, resulted in a slight decline in harvest. The number of moose exported through Pigeon River from all districts declined slightly as seen in the following table.

Year	Moose Exported	Deer	Bear
1966	1,110	52	28
1965	1,159	92	25
1964	856	86	--
1963	802	72	14

Figure I depicts the non-resident kill for the years 1950-1966.

Period of Kill

The period of kill has been divided into three time intervals as depicted on Table II. Nearly 71% of all moose exported were shot in the first two weeks of October. This compares to approximately 79% in the 1965-66 season. The number and percentage of moose shot after November 1 also rose substantially.

Sex Ratio

The sex ratio remained proportionally nearly unchanged when compared to that of a year ago.

Year	Males	Females
1966-67	362	257
1965-66	301	277
1964-65	215	202

Number of Hunters

Hunter strength nearly doubled; estimated 918 to 1,810. This represents nearly a 100% increase over the 1965-66 season. Canada Customs personnel at Pigeon River estimated that U.S. citizens travelling north during the first two weeks of October jumped from an estimated number of 3,000 a year ago to approximately 8,000 this past season. This large increase of non-resident hunters is unprecidental and has caused much resentment among resident hunters. Hunters spent an average of 5.1 days hunting compared to 4.5 days in the previous season. Over all success was cut nearly in half i.e. (73.5% to 35.8%). The large numbers of hunters in the field plus the combination of poor weather (see fig. II) during the early part of October is largely responsible for this drastic decrease in percent success.

Management Areas: (See Map)

Upsala - Graham (9)

Hunter success dropped 39.6% in area nine. The moose kill is correspondingly 21.5% below that in 1965-66. Hunters increased 300, to an all time high of 806.

The number of tourist camps available in area nine helps to attract a large number of non-resident hunters. The kill after

November 1 increased from 44 a year ago to 54, indicating hunters are taking advantage of the longer season.

Northern Light - Shebandowan (10)

Hunter success dropped 47.3% in area ten. The moose kill, however, is up nearly 13%. The average number of days spent hunting (4.5) was also the lowest in the district. This may be partly explained by the close proximity to the Minnesota border.

Armstrong - Black Sturgeon (11)

Statistics compiled at the Black Sturgeon check gate indicated that up to October 15, 1966, non-residents accounted for nearly 60% of all moose shot in the area. Success rates fell 29% from 69% to 40%. The moose kill increased nearly 23% over 1965-66 figures. The percent success and the percent rise in kill was the highest in any of the 4 management areas.

Dog Lake - Spruce River Road (12)

An increasing number of non-residents are hunting in this unit. Hunter success dropped 44.5% and the kill was also reduced by nearly 50%.

Additional Hunter Return Information

A total of 1,316 moose return sheets and 156 deer return cards were sent to other districts. Port Arthur again collected the bulk of Geraldton's non-resident moose hunt information. Substantial information was also collected and sent to Sioux Lookout.

Reject Cards and Sheets

Twelve moose return sheets were rejected due to incomplete information, (from a total of 3196 collected). A total of 355 deer return cards were also collected; 21 of which were rejected for want of complete information.

(b) Deer Hunt

The non-resident deer kill has nearly been cut in half from 70 recorded a year ago, to 44 recorded this past season. Table III depicts the hunt breakdown. The district was divided into 3 main deer areas. Units 9, 10 and 11 remained basically the same. Area 12 being incorporated with area 11. The Northern Light, Whitefish, Pigeon River section again showed the highest kill. A total of 178 non-residents filled out a deer return card. Thus we again see nearly a 100% rise in

licence sales (92 to 178). Approximately 21% (363 of the 1728 combined deer moose licence holders) professed to have also hunted deer. A year ago 27% of these combined licence holders stated that they also hunted deer. A large increase in deer hunters occurred in areas predominately inhabited by moose.

Pigeon River Power Toboggan Usage Survey

A belated attempt was made to evaluate the role played by power toboggans in the big game hunt. A short simple form was drafted and placed with Customs personnel at Pigeon River December 13, 1966. These personnel were requested to ask the owner of each power toboggan, employed in moose hunting, to fill out the form. The forms were then attached to the regular moose hunt return sheets. A total of 67 forms were filled in by non-residents hunting in Port Arthur District. The following is a breakdown of facts and comments recorded:

(1) No. of power toboggans used - 67

(2) Total No. of miles travelled from nearest road - 703

(3) Average No. of miles travelled from nearest road - 10.5

(4) Answers to the following questions:

(a) Did the power toboggan play an important part in your hunt? - 54 answered yes, 13 answered no.

(b) Was the power toboggan an aid in locating moose? - 20 answered yes, 47 answered no.

(5) Game harvested included 32 moose (16 bulls, 15 cows and 1 calf.) as well as 3 deer.

(6) Average No. of hunters per machine - 2 to 3.

(7) Remarks: - Used for transportation only.

- Necessary for transporting and dragging your kill.

- Just took along for taking moose out if successful.

- Appreciate the privilege of hunting with power toboggan.

- Good to reach hunting area only.

- No opportunity to see moose.

- Used for hauling out moose.

- Aid in going in and out of bush country.

- Not much help on hunt, more of a help to the moose.

- Had lots of fun.

- Machine broke down.

- Seems to scare moose.

Discussion

Customs personnel report 25-30% of hunting party members possess no licence (deer or moose). When questioned these people state that they are not hunting but merely accompanying licenced hunters for one or more of the following reasons:

1) to help pull animals out of the bush.
2) for safety measures - i.e. prevent getting lost.
3) for company - i.e. cooking
4) enjoying the out of doors

These licenced hunters when accompanied by unlicenced persons are usually found to have in their possession more than one firearm. Our officers believe that the greater percentage of these unlicenced people are actively hunting when in remote areas. This practice seems to be on the upswing. Thus information gathered on hunter return forms may be somewhat misleading.

A lower percentage of moose hunters, (21% compared to 27% a year ago) professed to have also hunted deer. Yet non-resident deer licence sales has risen 100%. This may indicate an increased number of hunters hunting moose on deer licences. There is an increasing trend to hunt moose later in the season. The recent upsurge in snow toboggans lends itself to develop this type of hunt to a much greater degree.

Conclusions

1) The weather plays an important part early in the season.

2) The present system of evaluating the hunt by the use of book covers is inadequate.

3) The legal aircraft spotting area located in the Armstrong vicinity went virtually unused.

4) It is felt that power toboggans are an asset in locating game in inaccessible areas. We feel that they are not detrimental to the moose herd in this district as such, but when used in conjunction with illegal spotting and 2 way radio's, they are highly effective. Over harvesting in certain areas using this combination could take place.

5) A severe winter (1965-66) is largely responsible for a decline in the availability of deer.

Recommendations

It is recommended that:

1) The deer season be opened a month later (i.e. November 1) than moose. This would help eliminate hunters from hunting moose on a deer licence.

2) The entire big game licencing system be studied.

Acknowledgements

The Department wishes to thank the Canadian Customs personnel at Pigeon River for an excellent job well done! Grateful appreciation is also extended to Mr. Ken Charles and to all Department personnel who participated in evaluating the hunt.

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District Office Files

Timmermann, H.R. Non-Resident Moose Hunt, Port Arthur District, 1965-66
District Office Files

TABLE I

SUMMARY OF NON-RESIDENT MOOSE HUNT AS COLLECTED FROM RETURNS at PIGEON RIVER, SAULT STE. MARIE, RAINY RIVER AND INTERNATIONAL FALLS 1966-67 COMPARED to 1965-66 and 1964-65

SUMMARY	Oct.1/64 Jan.3/65	Oct.2/65 Jan.8/66	Oct.1/66 Jan.8/67
1) Purchased licence in PORT ARTHUR DIST. and hunted in PORT ARTHUR DIST.	642	762	1572
2) Purchased licence in PORT ARTHUR DIST. and hunted elsewhere.	201	211	583
3) Purchased licenne elsewhere & hunted in PORT ARTHUR DIST.	11	138	156
4) Purchased licence elsewhere & hunted elsewhere.	400	581	873
5) Reject cards (information lacking)	38	8	12
Sub-Total	1292	1700	3196
6) Calculated unsuccessful from 40 and 10 positive kills (included above) collected at Sault Ste. Marie and FORT FRANCES DISTRICTS respectively	?	18	82
GRAND TOTAL	1292	1718	3278

BREAKDOWN

(2) Number Purchased in PORT ARTHUR	Hunted In
273	Sioux Lookout
287	Geraldton
23	Kenora
583	

(3) Purchased In	Number Hunted in PORT ARTHUR
Sioux Lookout	58
Geraldton	33
Kenora	15
Fort Frances	42
Cochrane	1
Sault Ste. Marie	2
White River	3
Guest Card	2
	156

TABLE I - Cont'd

(4) (a) Purchased In	Number Hunted in Sioux Lookout
Sioux Lookout	523
Kenora	35
Fort Frances	23
Sault Ste. Marie	6
Guest Card	1
	588

(b) Purchased In	Hunted in Geraldton
Geraldton	231
Kenora	3
Sioux Lookout	2
Fort Frances	9
Kapuskasing	2
Sault ste. Marie	2
White River	5
Guest Card #63	1
	255

Purchased In	Hunted Kenora
Kenora	8
Sioux Lookout	2
Fort Frances	5
	15

Purchased In	Hunted
Kapuskasing	Kapuskasing - 4
Geraldton	Kapuskasing - 1
Geraldton	White River - 2
White River	White River - 2
White River	Kapuskasing - 1
Fort Frances	White River - 2
Cochrane	Kapuskasing - 3
	15

TOTAL: 588 + 255 + 15 + 15 = 873 bought elsewhere and hunted elsewhere.

TABLE II

ACTIVITY BREAKDOWN OF NON-RESIDENT MOOSE HUNTERS
PORT ARTHUR DISTRICT
1966-67 as compared to 900 NON-RESIDENT MOOSE HUNTERS 1965-66

AREA	9		10		11		12		TOTAL	
YEAR	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
No. Hunters	506	806	111	326	243	519	40	77	900	1728
No. Successful	380	298	84	95	169	207	28	19	661	619
No. Unsuccessful	127	508	26	231	74	312	12	58	239	1109
Percent Success	74.6	35.0	76.4	29.1	69	40.0	69.2	24.7	73.5	35.8
No. Days Hunted	2295	4101	401	1476	1197	2887	167	352	4060	8816
Av. No. Days Spent Hunting	4.5	5.1	3.7	4.5	4.9	5.6	4.2	4.6	4.5	5.1
Bulls	190	166	41	44	99	123	13	11	343	344
Male Calf	25	8	5	5	8	5	1	-	39	18
Cows	139	112	35	42	52	65	12	7	238	226
Female Calf	26	12	3	4	10	14	2	1	41	31
Sex Ratio $\frac{M}{F}$	$\frac{215}{165}$	$\frac{174}{124}$	$\frac{46}{38}$	$\frac{49}{46}$	$\frac{107}{62}$	$\frac{128}{79}$	$\frac{14}{14}$	$\frac{11}{8}$	$\frac{381}{277}$	$\frac{362}{257}$
Per. of Kill Oct. 1-15	300	219	59	55	135	148	26	15	520	437
Oct. 16-31	39	25	7	18	8	21	1	2	55	66
Nov. 1+	44	54	18	22	26	38	1	2	86	116

TABLE III

NON-RESIDENT DEER HUNT BREAKDOWN

AREA		No. Hunters + Deer Only	No. Hunters Combined ++	Successful
DOG LAKE	1965	25	11/116	19
KAMINISTIQUIA				
UPSALA, SHEBANDOWAN	1966	59	6/109	10
WHITEFISH LAKE	1965	41	11/52	33
NORTHERN LIGHT				
PIGEON RIVER	1966	54	12/144	25
NIPIGON, PASS LAKE	1965	26	13/71	18
ARMSTRONG				
DORION	1966	65	6/110	9
TOTAL	1965	92	35/239	70
	1966	178	24/363	44

\+ Hunters purchasing non-resident deer licence only

++ Hunters purchasing combined deer and moose licence ✦

NON-RESIDENT DEER RETURN CARDS SENT TO: GERALDTON
SIOUX LOOKOUT
KENORA
REJECT

Successful
No. of hunters who also hunted deer

GERALDTON - 35
SIOUX LOOKOUT - 99
KENORA - 22
REJECT - 21
177

TABLE III - Cont'd

AREA		Buck	Doe	Fawn	Days Hunted+	Period of Kill Oct. 1-15	Oct. 16+
DOG LAKE	1965	8	7	4	134	5	3
KAMINISTIQUIA							
UPSALA, SHEBANDOWAN	1966	5	4	1	297	4	5
WHITEFISH LAKE	1965	12	18	3	130	12	10
NORTHERN LIGHT							
PIGEON RIVER	1966	7	13	6	292	9	16
NIPIGON, PASS LAKE	1965	4	9	5	145	3	2
ARMSTRONG							
DORION	1966	2	4	2	377	6	2
TOTAL	1965	24	34	12	412	20	15
	1966	14	21	9	966	19	23

+ Hunters purchasing non-resident deer licences only

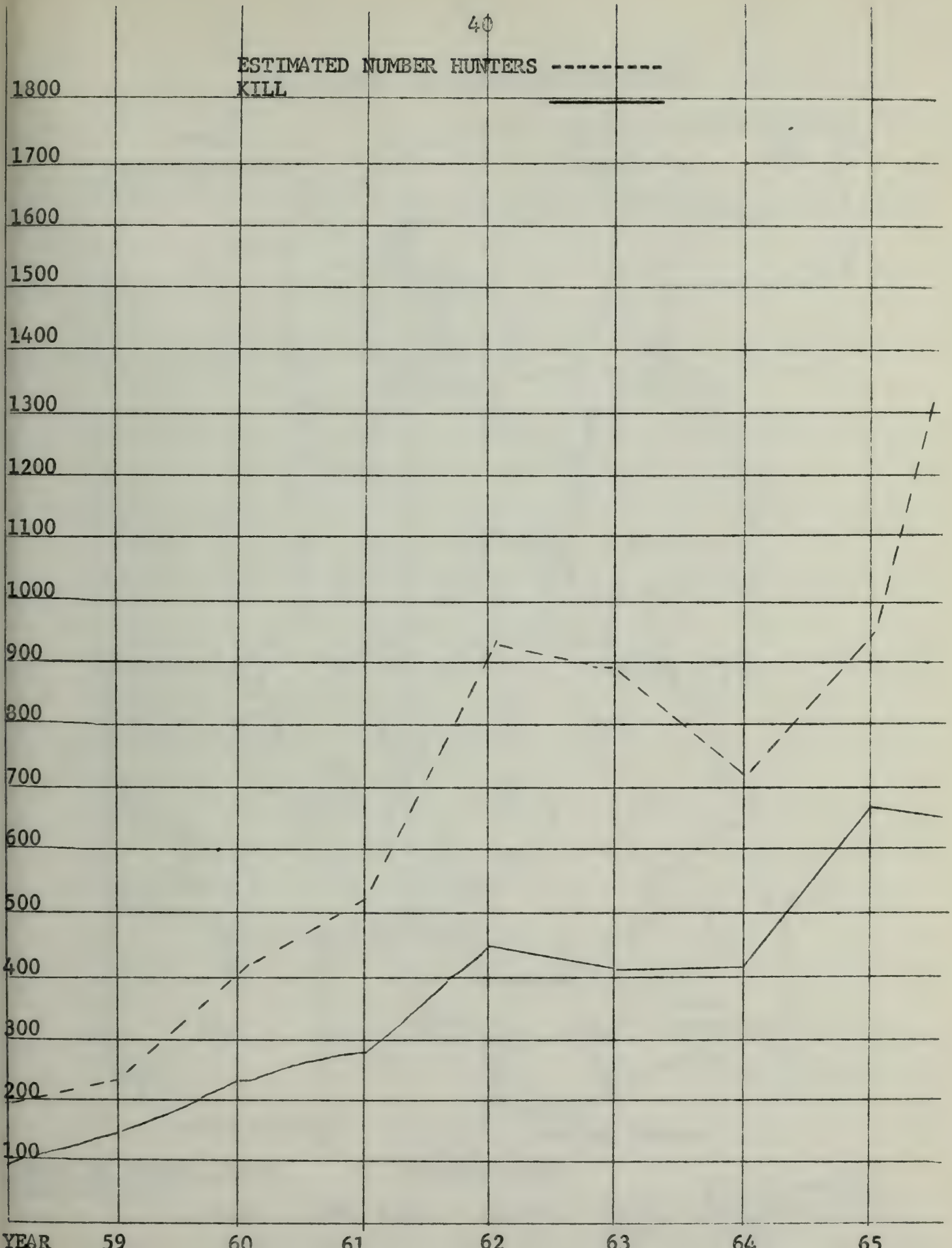
++ Hunters purchasing combined deer and moose licence

NON-RESIDENT DEER RETURN CARDS SENT TO: GERALDTON
SIOUX LOOKOUT
KENORA
REJECT

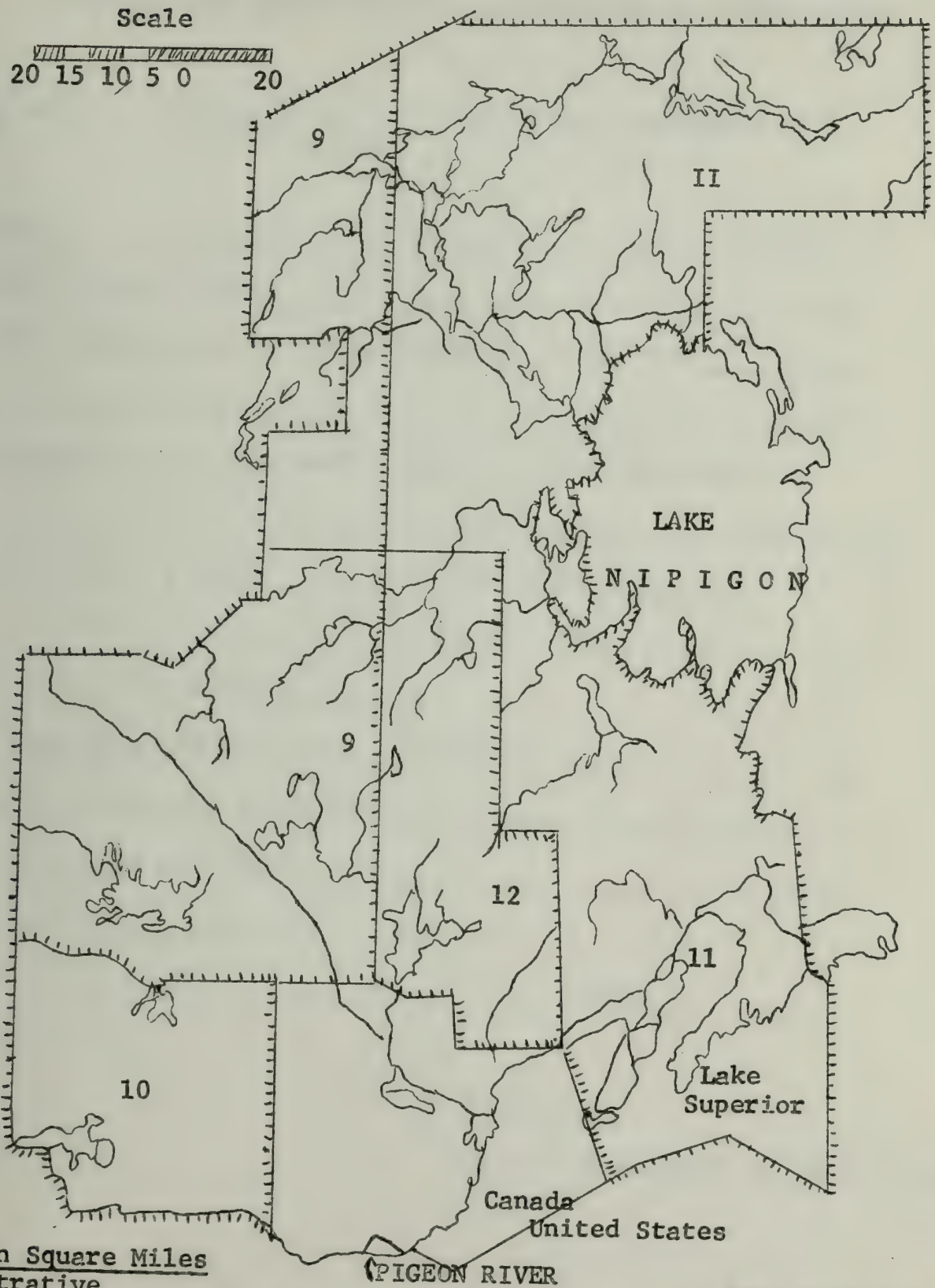
Successful

No. of hunters who also hunted deer

GERALDTON - 35
SIOUX LOOKOUT - 99
KENORA - 22
REJECT - 21
177


ESTIMATED NUMBER HUNTERS ---------
KILL
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
YEAR
59
60
61
62
63
64
65

PORT ARTHUR ADMINISTRATIVE DISTRICT



Areas in Square Miles

Administrative
land - 16,933, water - 3,067 total - 20,000

Fire District
land-16,933 water-3,067
total - 20,000

PORT ARTHUR DISTRICT

NON-RESIDENT MOOSE HUNTERS AS COLLECTED AT PIGEON RIVER

196_

Please refer to the large map and fill in this information.
(Please Print)

1. Name_____

2. Moose Licence Number_____

3. Where did you purchase your licence? City, etc._____

_____

4. In what area did you hunt? (Record number from map)

_____

5. Did you kill a Bull_____ Male Calf_____

Cow_____ Female Calf_____

Nothing_____

6. On what date did you shoot your moose?_____

7. How many days did you hunt?_____

8. Did you also hunt deer?_____

If successful, check off -

Buck_____ doe_____ Fawn_____

Thank you.

Ontario Department of Lands & Forests

PIGEON RIVER

POWER TOBOGGAN USAGE SURVEY

No. of Miles travelled from the nearest road_____

Did the power toboggan play an important part in your hunt?

_____

Was the power toboggan an aid in locating moose?_____

Remarks:

_____

_____

_____

_____

RUFFED GROUSE STUDIES IN THE GERALDTON DISTRICT, 1966

by
H.E. Middleton

Abstract

A count of 28 broods of ruffed grouse was observed for the year 1966 which is considerably lower than previous years, with the exception of 1962 when 27 broods were sighted. Of these 28 broods with an average chick count of 4.6 it would appear to be the lowest average on record since 1959. One might therefore assume a poor hunt would be forthcoming. Hunters bagged ruffed grouse at the projected rate of .06 birds per hunter and sighted birds at the rate of 1.0 birds per hunter. On foot, the average hunter's success was 24.8 birds per one hundred man-hours, the lowest rate since 1962. The success of car hunter per one hundred miles was 3.9 birds, which is the highest achieved since 1961.

Ruffed Grouse Production

During the summer of 1966, Conservation Officers recorded observations of 28 broods of ruffed grouse. This was the lowest number of broods recorded since 1962 (Table 1). The average brood size of 4.9 young for July, 1966 is below that of July 1964 (5.2 young) and also below the five year June average of 5.3 young for the years 1960 to 1964 inclusive.

An average of 3.9 chicks was recorded in the 9 broods observed during August, 1966. This was down considerably from the 5.1 average brood size recorded in 1964; the 1960-64 average brood size, as Table 1 shows, is 5.1 chicks.

Only one brood of 6 ruffed grouse was sighted this year. The September brood size since 1960 was averaged at 5.1 chicks.

The average brood size for the summer of 1966 was 4.6 young. This represents a reduction in average brood size of 0.7 young from the 1964 data and is the lowest average production recorded since 1959.

In spite of the reduced number of broods observed, and the smaller brood size, predictions for the 1966 grouse hunt ranged from fair to good.

Results of the 1966 Grouse Hunt

A total of 68 ruffed grouse hunter study cards (H50) were filed by Department personnel and assisting selected hunters. A high degree of accuracy appears to be prevalent in the returned data. With the limited number of returns and the trend appearing to be concentrated more in some Divisions than others, it would appear that any conclusion drawn would be more favourable to Divisions than to the Geraldton District, in its entirety.

The 68 cards filed show a 38 or 55.9% representation of hunters on foot, and a 30 or 44.1% representation of hunters utilizing cars.

Percentage wise the comparison is favourable with 1964 (Gibson) when a 61.2% representation of hunters on foot and a 38.8% representation of hunters utilizing cars was evidenced.

Hunting on Foot 1966

The 1966 hunters appear to have sighted an average of 43.0 birds and bagged 24.8 birds for each 100 man-hours hunted. This shows a favourable comparison (see Table 11) with the combined averages of 1962-63-64 when 34.9 birds were sighted and 23.2 birds harvested for each 100 man-hours hunted.

The majority of the hunting appears to be before leaf-fall with 35 of the 38 compiled cards, or a projected 90% preference cited for an early hunt (see Table 11). The success rate indicates 25.3 birds were shot for each 100 man-hours prior to leaf-fall, compared with 24.8 birds throughout the entire season.

The hunt statistics after leaf-fall is based on limited data submitted by one hunter, who utilized a dog. This projected average showed a harvest of 20 birds for each 100 man-hours hunted. The success rate based on one hunter must be treated with reservations.

Hunting by Automobile 1966

The 30 study cards submitted present a total of 798 car miles. This constitutes 2455 car miles less than 1964 (Gibson 1964) the previous high, and the lowest recorded since 1960. The search for grouse saw each car averaging 26.6 miles in 1964 compared with 41.7 miles in 1966.

Birds shot for each one hundred miles driven were 3.9 which is considerably higher than the combined averages of 1962-63-64 when the harvest was 1.8 birds for each one hundred miles driven. This

would appear to project an availability of 2.1 birds more for each one hundred miles, than witnessed within the years 1962, 1963, 1964. It would also appear to substantiate the prediction of 1963 which suggests that grouse are in the increasing stage of their cycle (Gibson 1963).

Following leaf-fall (Table 111) only 4 (H50) Hunter Study Cards were submitted. This constitutes 13.7% of the total hunters and could well indicate the preference of the majority for the early bird hunt, i.e., prior to leaf-fall. Indications show an identical take of 3.9 birds for each 100 miles driven both prior and after leaf-fall. Clarification at this point shows that prior to leaf-fall 6.4 birds were sighted for each 100 miles driven, compared with 4.9 birds being sighted for each 100 miles driven following leaf-fall.

One might speculate that this could be due to the increased wariness of grouse after leaf-fall, due in part to the natural destruction of some of their protecting cover, or, in part to the increased awareness of the hunter.

It might be wise to view the results optimistically, when the low mileage driven and the limited samples of (H50) Study Cards are duly considered.

Discussion

The compiled data for 1966 must be viewed in relation to two of the five Divisions within the Geraldton District. The remaining three Divisions submitted just 2 of the (H50) Study Cards, indicating only one grouse shot within the three Divisions.

With the opening of the moose season, it could be construed that bird hunting becomes second in popularity. Indications show 79.5% of the hunters active within the first 15 days (prior to moose season) while 20.5% of the hunters are active during the remaining 76 days, after the opening of moose season.

It is the personal belief of the writer that many hunters while searching for moose, upon seeing grouse, will harvest the latter, while continuing to search for bigger game. Since the prime interest is big game, this is not classified in the terms "bird hunting" by the majority. Verification of this is evident by Conservation Officers who, in their routine checking, find a large percentage of hunters possessing guns of both small calibre and big game calibre, in their vehicles.

With 90% of the (H50) Study Cards submitted by Department staff, it could be assumed that a high degree of accuracy has been realized.

Recommendation

It could well be in the best interest of all succeeding data to have the (H50) Study Cards read "RUFFED AND SPRUCE GROUSE STUDY CARDS", rather than the spruce grouse being recorded as, "other game bagged". I substantiate this reasoning realizing that the (H50) Study Cards showed 32 spruce grouse harvested in comparison with 64 ruffed grouse harvested, or in projected ratio, 33% of the entire kill in the area appears to be spruce grouse.

Summary

The summer of 1966 appears to have produced a projected average of 28 broods of ruffed grouse with an average brood of 4.6 birds. Although the count was the lowest observed since 1959, the 1966 hunt does not appear to have dropped in comparison. The year 1966 saw 24.8 birds bagged for each 100 hours hunted, while the years 1962, 1963 and 1964 show a combined take of 23.2 birds for each 100 hours hunted.

Success by car miles again belied the small brood count, with 1966 showing 3.9 birds taken for each 100 miles driven in comparison with the years 1962, 1963, 1964, projecting a combined average of 1.8 birds for each 100 miles driven.

Acknowledgements

Appreciation must be given to all the Department employees who assisted in the collection of the data from which the foregoing report was tabulated. The co-operation of Mr. B.H. Gibson (Biologist) and Mr. E.H. Stone (Fish and Wildlife Supervisor) was truly informative and helpful.

Literature cited:

Gibson, B.H. Geraldton District Ruffed Grouse Studies 1960-61-62-63-64.

Gibson, B.H. Ruffed Grouse Production 1966.

Table 1 RUFFED GROUSE BROOD COUNTS 1961 to 1966

Month	No. of Broods 1966	No. of Broods 1964	No. of Broods 1963	No. of Broods 1962	No. of Broods 1961	Ave. Brood Size 1966	Ave. Brood Size 1964	Ave. Brood Size 1963	Ave. Brood Size 1962	Ave. Brood Size 1961
June	0	2	3	8	14	-	3.5	8.0	6.6	6.1
July	18	14	17	12	15	4.9	5.2	4.1	6.3	4.9
August	9	14	7	6	10	3.9	5.1	4.3	5.7	5.7
September	1	6	3	1	0	6.0*	6.2	5.3	5.0	-
TOTALS	28	36	30	27	39	4.6 Average size for summer	5.3	5.4	5.9	5.6

Note: Brood count data for 1965 was not available

* Based on one brood only.

Table II RUFFED GROUSE HUNTER SUCCESS ON FOOT DURING 1966

Period	No. of Parties	Total Hunters	Man-Hours	Ruffed Grouse Seen	Ruffed Grouse Shot	Parties Dog Used*	Parties Dog not used
Sept. 15-18	11	18	53	15	10	2	9
Sept. 19-25	6	12	13.5	8	5	2	4
Sept. 26-Oct.2	9	10	25.5	19	9	0	9
Oct. 3-9	2	3	10	4	2	2	0
Oct. 10-16	3	4	8.5	1	1	1	2
Oct. 17-23	4	7	12	6	4	4	0
Leaf-fall completed							
Oct. 24-30	2	2	6	4	2	2	0
Oct. 31-Nov.6	1	1	4	0	0	1	0
Nov. 7-13	0	0	0	0	0	0	0
Nov. 14-20	0	0	0	0	0	0	0
Nov. 21-27	0	0	0	0	0	0	0
Nov. 28-Dec. 4	0	0	0	0	0	0	0
Dec. 5-11	0	0	0	0	0	0	0
Dec. 12-15	0	0	0	0	0	0	0
TOTALS	38	57	132.5	57	33	14	24

Data are arranged for weekly periods to include a Saturday and Sunday except for December 12 to 15/

Table 27

Meeting house nurses success on first home during 1965

Period	No. of parties	Total Number	Mean Hours	Invited Grooms Only	Invited Grooms and Brides	Parties Does Not	Parties Does Not
Jan.-Mar.	4	12	3.5	3	1	0	0
Apr.-June	14	42	3.0	12	2	0	0
July-Sept.	9	27	2.5	8	1	0	0
Oct.-Dec.	4	12	2.0	4	0	0	0
Total	31	93	2.7	27	4	0	0

Table 28

Number of parties and guests for each day of week during 1965

Day of week	No. of parties	Total Number	Mean Hours	Invited Grooms Only	Invited Grooms and Brides	Parties Does Not	Parties Does Not
Sunday	2	6	2.5	2	0	0	0
Monday	0	0	0	0	0	0	0
Tuesday	0	0	0	0	0	0	0
Wednesday	0	0	0	0	0	0	0
Thursday	0	0	0	0	0	0	0
Friday	0	0	0	0	0	0	0
Saturday	29	87	3.0	25	4	0	0
Total	31	93	2.7	27	4	0	0

Table 29

Number of parties and guests for each month during 1965

Month	No. of parties	Total Number	Mean Hours	Invited Grooms Only	Invited Grooms and Brides	Parties Does Not	Parties Does Not
January	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0
March	4	12	3.0	3	1	0	0
April	4	12	3.0	3	1	0	0
May	5	15	3.0	4	1	0	0
June	5	15	3.0	5	0	0	0
July	3	9	2.5	3	0	0	0
August	3	9	2.5	2	1	0	0
September	3	9	2.5	3	0	0	0
October	1	3	2.0	1	0	0	0
November	1	3	2.0	1	0	0	0
December	2	6	2.0	2	0	0	0
Total	31	93	2.7	27	4	0	0

Table III RUFFED GROUSE HUNTER SUCCESS BY AUTOMOBILE DURING 1966

Period	Number of Parties	Total Hunters	Total Car-Miles	Ruffed Grouse Seen	Ruffed Grouse shot
Sept. 15-18	13	20	445	33	17
Sept. 19-25	6	11	91	7	7
Sept. 26-Oct. 2	5	7	83	0	0
Oct. 3-9	1	2	5	1	1
Oct. 10-16	1	1	12	0	0
Oct. 17-23	0	0	0	0	0
Leaf-fall completed					
Oct. 24-30	1	2	6	0	0
Oct. 31-Nov. 6	1	2	16	0	0
Nov. 7-13	0	0	0	0	0
Nov. 14-20	1	1	50	1	1
Nov. 21-27	1	2	90	7	5
Nov. 28-Dec. 4	0	0	0	0	0
Dec. 5-Dec. 11	0	0	0	0	0
Dec. 12-Dec. 15	0	0	0	0	0
TOTALS	30	48	798	49	31

Data are arranged for weekly periods to include a Saturday and Sunday except for December 12 to 15, inclusive.